

At least nine of the ten lights must operate continuously over the eight hour period. If the lights are flashing lights, at least nine of ten must have a flash rate of between 50 and 70 flashes per minute when first activated or within five minutes thereafter.

(d) Individual tests must be conducted on a sample light to determine whether the light meets the requirements of §161.012-7, except that technical data showing compliance with §160.012-7(c) may be submitted with the application for approval in lieu of performing an individual test.

§ 161.012-13 Production tests and inspections.

(a) The manufacturer of approved lights must randomly select a sample of ten lights from each lot of lights produced. Each lot must not exceed 1,000 lights. At least nine of the ten lights, when tested in accordance with the test described in §161.012-11(c), must meet the test criteria prescribed by that section. If less than nine lights meet the test criteria, another random sample of ten lights must be taken and tested. If less than nine of these lights meet the test criteria, none of the lights in the lot may be sold as Coast Guard approved equipment.

(b) The Coast Guard does not inspect lights approved under this subpart on a regular schedule. However, the Commandant may select samples and conduct tests and examinations whenever necessary to determine whether the lights are being manufactured in compliance with the requirements in this subpart.

§ 161.012-15 Markings.

(a) Each light manufactured under Coast Guard approval must be permanently and legibly marked with:

(1) The manufacturer's name or trade mark that clearly identifies the model designation;

(2) The Coast Guard approval number assigned to light; and

(3) Instructions on how to activate the light.

(b) The power source of each light must be permanently and legibly marked with its date of manufacture and expiration date. Each date must include the month and year.

§ 161.012-17 Instructions.

(a) Each light must have instructions on how to attach it to a PFD in a manner that complies with §161.012-7(a). However, in the case of lights that are to be attached by a PFD manufacturer, only one set of instructions need be provided for each shipment of lights.

(b) If a light is designed to be attached to a finished PFD, any attachment materials that are not supplied with the light must be clearly identified in the instructions. If a light is to be attached to a finished PFD by a PFD purchaser, any attachment materials not supplied with the light must be generally available for purchase.

(c) Each set of instructions must—(1) Clearly identify the kind of PFD construction (for example fabric covered or vinyl dipped) to which the light can be attached; and

(2) Not require penetration of the buoyant material of the PFD.

Subpart 161.013—Electric Distress Light for Boats

SOURCE: CGD 76-183a, 44 FR 73054, Dec. 17, 1979, unless otherwise noted.

§ 161.013-1 Applicability.

(a) This subpart establishes standards for electric distress lights for boats.

(b) [Reserved]

§ 161.013-3 General performance requirements.

(a) Each electric light must:

(1) Emit a white light which meets the intensity requirements of §161.013-5;

(2) Be capable of automatic signaling in a manner which meets the requirements of §161.013-7;

(3) Contain an independent power source which meets the requirements of §161.013-9;

(4) Float in fresh water with the lens surface at or above the surface of the water;

(5) Be equipped with a waterproof switch; and

(6) Meet the requirement of paragraphs (a) (1) through (4) of this section after floating for at least 72 hours followed by submersion in 5% by weight

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sodium chloride solution for at least 2 hours.

(b) The electric light may not be equipped with a switch mechanism which permits continuous display of a beam of light except that the light may be equipped with a switch which returns to the off position when pressure is released.

§ 161.013-5 Intensity requirements.

(a) If an electric light emits light over an arc of the horizon of 360 degrees, the light must:

(1) When level, have a peak intensity within 0.1 degrees of the horizontal plane;

(2) Have a peak Equivalent Fixed Intensity of at least 75 cd; and,

(3) Have a minimum Equivalent Fixed Intensity within a vertical divergence of ± 3 degrees of at least 15 cd.

(b) If an electric light emits a directional beam of light, the light must:

(1) Have an Equivalent Fixed Intensity of no less than 25 cd within ± 4 degrees vertical and ± 4 degrees horizontal divergence centered about the peak intensity; and,

(2) Have a minimum peak Equivalent Fixed Intensity of 2,500 cd.

(c) The Equivalent Fixed Intensity (EFI) is the intensity of the light corrected for the length of the flash and is determined by the formula:

$$EFI = I \times (t_c - t_i) / 0.2 + (t_c - t_i)$$

Where:

I is the measured intensity of the fixed beam.

t_c is the contact closure time in seconds, (0.33 for this S-O-S signal), and

t_i is the incandescence time of the lamp in seconds.

(d) An electric light which meets the requirements of either paragraph (a) or (b) of this section need not, if capable of operating in both manners, meet the requirements of the other paragraph.

§ 161.013-7 Signal requirements.

(a) An electric light must have a flash characteristic of the International Morse Code for S-O-S and, under design conditions,

(1) Each short flash must have a duration of $\frac{1}{3}$ second;

(2) Each long flash must have a duration of 1 second;

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(3) The dark period between each short flash must have a duration of $\frac{1}{3}$ second;

(4) The dark period between each long flash must have a duration of $\frac{1}{3}$ second;

(5) The dark period between each letter must have a duration of 2 seconds;

(6) The dark period between each S-O-S signal must have a duration of 3 seconds.

(b) The flash characteristics described in paragraph (a) must be produced automatically when the signal is activated.

§ 161.013-9 Independent power source.

(a) Each independent power source must be capable of powering the light so that it meets the requirements of § 161.013-3(a)(1) and emits a recognizable flash characteristic of the International Morse Code for S-O-S at a rate of between 3 and 5 times per minute after six hours of continuous display of the signal.

(b) If the independent power source is rechargeable, it must have a waterproof recharger designed for marine use.

(c) If the independent power source requires external water to form an electrolyte, it must operate in sea water and fresh water.

§ 161.013-11 Prototype test.

(a) Each manufacturer must test a prototype light identical to the lights to be certified prior to the labeling required by § 161.013-13.

(b) If the prototype light fails to meet any of the general performance requirements of § 161.013-3 the lights must not be certified under this subpart.

(c) Each manufacturer must:

(1) Forward the test results within 30 days to the Commandant (CG-ENG), U. S. Coast Guard, 2100 2nd St., SW., Stop 7126, Washington, DC 20593-7126; and

(2) Retain records of the test results for at least 5 years, or as long as the light is manufactured and certified, whichever is longer.

[CGD 76-183a, 44 FR 73054, Dec. 17, 1979, as amended by CGD 88-070, 53 FR 34536, Sept. 7, 1988; CGD 95-072, 60 FR 50467, Sept. 29, 1995; CGD 96-041, 61 FR 50734, Sept. 27, 1996]